

**Commonwealth of Kentucky**  
**Division for Air Quality**  
***PERMIT STATEMENT OF BASIS***

(DRAFT)

Conditional Major, Operating

Permit: F-07-046

TruSeal Technologies, Inc.

Barbourville, KY 40906

August 27, 2007

Ralph Gosney, Reviewer

SOURCE ID: 21-121-00004

SOURCE A.I. #: 2550

ACTIVITY ID: APE20040001

**SOURCE DESCRIPTION:**

TruSeal Technologies, Inc. produces adhesives and sealants for consumer applications. Primary emission units include batch mixers and a continuous mixer. After extrusion, sections of the product are cut off by hand, in a process called “slugging” and transferred for packaging.

Without federally enforceable limits, the potential to emit (as defined in 401 KAR 52:001, Section 1 (56)) of volatile organic compounds (VOC) is greater than the major source threshold of 100 tons per year. Additionally, without federally enforceable limits, the potential to emit of hazardous air pollutants (HAPs) is greater than the major source thresholds of 10 and 25 tons per year for any single HAP and the combination of HAPs, respectively.

The source was issued operating permit S-98-061 on July 31, 1998, with Revision 1 issued on January 13, 2000. Permit S-98-061 was issued pursuant to 401 KAR 50:035, which has been repealed and replaced with 401 KAR 52:020 (Title V Permits), 401 KAR 52:030 (Conditional Major Permits), and 401 KAR 52:040 (State Origin Permits). As such, S-98-061 was issued as a State Origin permit with voluntary source-wide HAP emission limits to preclude permitting requirements for major sources. During this review, the permittee has requested the continuance of federally enforceable permit limits below major source thresholds. Therefore, this permit is issued pursuant to the provisions of 401 KAR 52:030, *Federally-Enforceable Permits for Nonmajor Sources*.

Since the submittal of the permit renewal application in May 2002, the source has submitted additional applications that are briefly described below. These requests have been considered during this review and are included in this permit. This includes the July 10, 2007 submittal, whereby the permittee has indicated that all formulas previously submitted to the Division (prior to the July 10 submittal) are no longer manufactured at the facility. The permittee has provided the new product formulas, which are deemed confidential pursuant to 401 KAR 1:060.

DAQ Date	Receipt	Description of Request
07/10/07		Additional information, as requested for permit renewal
07/27/06		Additional information, as requested for 04/18/06 submittal
04/20/06		Routine replacement of in-kind dust collectors

DAQ Date	Receipt	Description of Request
05/27/04		Application for construction of a continuous mixer/extruder unit and modification of current permit to delete equipment (including confidential information)
02/02/04		Submittal of new product formulas
01/13/03		Submittal of new product formulas
05/20/02		Permit renewal application

As specified in the May 27, 2004 renewal application, the source has removed **EP C1 (--), Toll Manufacturing Reactors and Mixers** from service, and the following emission units and related requirements at this EP C1 are not included in this permit:

- EP 02, A3 - Myers Blender
- EP A6 - Ribbon Blender
- EP A7 - #3 BFG Reactor
- EP 01 - #17 Caulk Mixer
- EP 02 - #16 Caulk Mixer
- EP 02 - #2 Caulk Mixer
- EP 02 - #3 Caulk Mixer
- EP 01, 02 - #1 Hockmeyer
- EP 01, 02 - #2 Hockmeyer
- EP 05 - Chemineer
- EP 19 - BFG #1 Reactor
- EP 21 - BFG #2 Reactor
- EP 48 - Simms Reactor
- EP 73 - BFG #4 Reactor

Additionally, the following emission units at **EP D1 (--), Toll Manufacturing Tanks and Miscellaneous Equipment** have been removed from service and are not included in this permit:

- EP 43 - Intermediate Storage 20,000 gal tank 150-394
- EP 44 - Intermediate Storage 20,000 gal tank 150-044 and tank 50-1283
- EP 45 - Intermediate Storage 2,500 gal tank 150-202
- EP 46 - Intermediate Storage 2,500 gal tank 58-1162
- EP 47 - Intermediate Storage 2,500 gal tank 150-567
- EP 53 - NaOH-IPA Storage Tank
- EP 57 - Intermediate Storage 10,000 gal tank 150-XB41
- EP 22 - Nash Vacuum Pump
- EP A8 - Primer Charger Port

The JH DAY #1 and #2 batch mixers, listed on permit S-98-061 (Revision 1) as **EP B1 (03), Adhesive and Sealants Mixer Units** have been removed from service.

**COMMENTS:**

(1) **Emission Units:**

The source consists of the following significant emission units, listed on permit S-98-061 (Revision 1) as **EP B1 (--)**, **Adhesive and Sealants Mixer Units:**

EP	Source Point	Description	Maximum Capacity	Control Device
03	A5	BP Mixer	869 lb/hr	Cartridge Dust Collector, 99.99% efficient
55	54	Aarons #2	1169 lb/hr	Cartridge Dust Collector, 99.99% efficient
	55	Aarons #3	2775 lb/hr	
64	64	Aarons #5	2619 lb/hr	Cartridge Dust Collector, 99.99% efficient
	74	Aarons #4	1159 lb/hr	
72	72	Aarons #1	2619 lb/hr	Cartridge Dust Collector, 99.99% efficient
	70	Aarons #6	1169 lb/hr	
76	76	Aarons #7	2775 lb/hr	Cartridge Dust Collector, 99.99% efficient
77	77	Aarons #8	1169 lb/hr	Cartridge Dust Collector, 99.99% efficient
	78	Aarons #9	1272 lb/hr	
01	CM01	TEM-104S Mixer Exhaust	4,000 lb/hr	Cartridge Dust Collector, 99.9% efficient
02		TEM-104S Slugging Exhaust		None

(2) **Type of control and efficiency**

The batch mixers are controlled by dust collectors, configured as listed above. The continuous mixer (CM01) vents to a dust collector which exhausts into the building. The continuous mixer also has a slugging exhaust system used to direct captured organic emissions through a rooftop vent and outside the building. There is no emissions control device on the slugging exhaust system.

(3) **Emission factors and their source**

The determination of the potential to emit (PTE) of particulate matter (PM/PM10), VOC and HAP from the mixers was based on material balance and the PM/PM10, VOC and HAP content in the raw materials, from the MSDS.

(4) **Applicable Regulations**

- (a) 401 KAR 59:010, *New Process Operations*, applies to each affected facility not subject to another emission standard for particulate matter in Chapter 59 of 401 KAR commenced on or after July 2, 1975. This rule applies to EP 03, 55, 64, 72, 76, 77 and CM-01. Visible emissions shall not exceed 20% opacity. For processing rates of 1000 lb/hr or less, the emissions of particulate matter shall not exceed 2.34 lb/hr. For processing rates greater than or equal to 1000 lb/hr but less than 60,000 lb/hr, emissions of particulate matter shall not exceed the allowable rates from the stacks, determined as follows:

$$\text{For process rates up to 60,000 lb/hr: } E = 3.59P^{0.62}$$

Where E = rate of emissions in lb/hr, and

P = process weight in tons/hr

- (b) 401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*, requires that persons responsible for a source from which hazardous matter or toxic substances may be emitted shall provide the utmost care and consideration, in the handling of these materials, to the potentially harmful effects of the emissions resulting from such activities. No owner or operator shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

**(4) Non-Applicable Regulations:**

- (a) TruSeal has requested voluntary permit emission limits of 90 tons per year (tpy) or less of VOC, 9 tpy or less of a single HAP, and 22.5 tpy or less of combined HAPs. Compliance with these emission limits shall make the requirements of 401 KAR 52:020, *Title V Permits*, not applicable to the source. Also, this facility is not a major source of HAP emissions, as such is defined at 40 CFR 63.2, and the major HAP source requirements pursuant to 40 CFR 63 (401 KAR 63:002) do not apply.
- (b) 401 KAR 60:005, Section 3(1)(ddd), which incorporates by reference 40 CFR 60, Subpart DDD, *Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry*, does not apply as no polymerization reactions occur at this source.
- (c) 401 KAR 63:002, which incorporates by reference 40 CFR 63 Subpart FFFF, *National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing*, does not apply to the source for manufacturing of adhesives, as the source is not a major source of air pollutants, as defined at 40 CFR 63.2. However, EPA has targeted Subpart FFFF as requiring future revision to include provisions for area sources. The facility may be subject to the area source standards after future final rule promulgation by U.S. EPA, and shall comply with any applicable requirements upon rule finalization.
- (d) 401 KAR 63:002, which incorporates by reference 40 CFR 63 Subpart T, *National Emission Standards for Halogenated Solvent Cleaning, Alternative Standards*. The requirements of this rule are not included in the permit for EP 11 (solvent wash tank) since this is not an affected solvent cleaning machine using a listed halogenated solvent in a total concentration greater than 5 percent by weight.
- (e) 401 KAR 60:005, which incorporates by reference 40 CFR 60, Subpart Kb (40 CFR 60.112b), *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984* does not apply to the intermediate storage tanks since each tank has a capacity of 16,500 gallons, which is less than the rule applicability threshold of 75 m<sup>3</sup> (19,812 gallons).
- (f) 401 KAR 59:050, *New storage vessels for petroleum liquids*, does not apply to the intermediate storage tanks because these tanks do not store petroleum liquids as defined in the rule.
- (g) 40 CFR 64, *Compliance Assurance Monitoring (CAM)*, does not apply to any emission unit because this source is being approved to operate under a Conditional Major permit and, pursuant to 40 CFR 64.2(a), the requirements of this rule are applicable only to a source required to obtain a Title V (Part 70 or 71) permit.

#### **EMISSION AND OPERATING CAPS DESCRIPTION:**

Knox County is designated as attainment for all criteria pollutants. To preclude the applicability of 401 KAR 52:020, *Title V permits*, total annual source-wide emissions shall not exceed the following specific limitations on a twelve (12) consecutive month basis:

- (a) VOC emissions: 90 tons per year;
- (b) Single HAP emissions: 9 tons per year; and
- (c) Combined HAP emissions: 22.5 tons per year.

Compliance with these limits shall also make the requirements of 40 CFR Part 63 for major sources of HAP emissions, as incorporated by reference at 401 KAR 63:002, not applicable to this source.

#### **PERIODIC MONITORING:**

In order to make the limitations specified above enforceable, the permit requires the source to monitor and keep monthly records of processing rates of each VOC/HAP containing material and the source-wide emission rates of VOC, individual HAP and combined HAP from all of the emissions units located at the facility. The permit also requires the source to monitor and keep monthly records of the processing rates, operating hours and emission rates of particulate matter from all of the mixers. The permittee shall also perform visual observations of the opacity of emissions on a weekly basis from each applicable stack, while the associated batch mixers are in operation.

The permit requires these records to be reported semiannually.

#### **CREDIBLE EVIDENCE:**

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.

#### **PAST PERMIT HISTORY:**

<b>Rev #</b>	<b>Permit Type</b>	<b>Log or Activity #</b>	<b>Complete Date</b>	<b>Issuance Date</b>	<b>Summary of Action</b>
--	<b>Operation</b>	<b>F254</b>		<b>07/31/98</b>	<b>State Origin Permit S-98-061</b>
<b>1</b>	<b>Revision 1</b>	<b>F254, G358</b>	<b>01/05/00</b>	<b>01/13/00</b>	<b>State Origin Permit S-98-061 (Revision 1)</b>
--	<b>Initial Issuance</b>	<b>2550</b>	<b>07/26/04</b>	<b>TBD</b>	<b>Initial Issuance, Conditional Major, Permit F-07-046</b>